



GB109-CT

General Purpose Server Barebone

User's Manual



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Safety Information

When installing, operating, or performing maintenance on this equipment, basic safety precautions, as listed below, should always be followed to reduce the risk of fire, electric shock, and personal injuries.

- Read and understand all instructions.
- Observe warnings and instructions marked on the product.
- For proper mounting instructions, please consult the User's Manual provided with the product.
- Do not place this product on an unstable cart, stand or table which might cause the product to fall and sustain serious damage.
- Install only equipment identified in the User's Manual provided with this product. Use of other equipment might cause improper connection of circuitry that might lead to fire or personal injuries.
- This product should be operated only from the type of power source indicated on the marked label. If you are uncertain about the type of power supply in your area, consult your dealer or the local Power Company.
- Disconnect the power supply module when removing power from the system.
- Unplug this product from the wall outlet before cleaning. Use a damp cloth for cleaning. Do not use liquid cleaners or aerosol cleaners.
- Do not use this product near a water source such as a wet faucet.
- Never push objects of any kind into this product through open slots as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill liquids of any kind on the product.
- Do not block or cover slots and openings in the unit as they are for ventilation to protect the unit from overheating. Do not place the product in a built-in installation unless proper ventilation is available.
- To reduce the risk of electric shock, do not disassemble this product. Service should only be performed by trained personnel. Opening or removing covers and/or circuit boards may expose you to electric or other risks. Incorrect reassembly can cause electric shock when the unit is subsequently used.
- Risk of explosion is possible if battery is replaced with an incorrect type. Dispose used batteries according to the instruction.
- This product is equipped with a three-wire grounding type plug, a plug with a third (grounding) pin. This plug is intended to fit only into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace the outlet. Do not defeat the safety purpose by removing the grounding type plug. Do not use a 3-to-2 prong adapter at the receptacle. Use of this type of adapter may result in risk of electric shock and/or damage to this product.

About This User's Manual

This document provides a detailed description of the GB109-CT including:

- The General Features of the Product
- Hardware Setup
- Motherboard Settings
- BIOS Configuration and Settings
- BMC Configuration and Settings

Chapter 1.

Product Introduction

1.1 General Information

GB109-CT, a 1U 4bay General Purpose Barebone, supports Dual-Core/Quad-Core/6-Core processors. GB109-CT has 4 x 3.5" size HDD bays w/o expander to maximize I/O bandwidth. GB109-CT harnesses MAX I/O™ technology, maximizing the usage of off-the-shelf expansion cards (up to 3) in the barebone.



System Package Contents

Check your package for the following items:

Motherboard	Castor
Components	1 x 650W 1+1 Redundant Power Supply 4 x Hot-swap 3.5" HDD Trays 1x SAS/SATA 4-in-1 Backplane 1x MAX I/O Main Riser Card 1 x PCIe Riser Card 6 x System Fans
Accessories	2 x Power Cords 1 x HDD Tray Kit 1 x 3.5" Screw Kit 1 x Internal SAS to SAS Cable 2 x Internal SATA to SATA Cables 1 x 28" Rail 2 x Heatsinks

1.2 System Specifications

Dimensions (with chassis ears/protrusions)	
W x D x H	mm : 482.6 x 711.2 x 44.4 inches : 19 x 28 x 1.75
Motherboard	
Motherboard	Castor (PSG-M-CTDP036D-110)
Processor	
Processor Support	Dual LGA1366 sockets to support Dual-core/Quad-core/6-Core Intel® Xeon processors 5500/5600 series (Nehalem/Westmere)
System Bus	1066/1333 MHz
Chipset	
Chipset Support	<ul style="list-style-type: none">• Intel® 5520 (Tylersburg-EP)• Intel® 82801JIR (ICH10R)
System Memory	
System Memory	<ul style="list-style-type: none">• Twelve(12) DIMM slots support up to 192 GB of DDR3 800/1066/1333 MHz Registered ECC memory (recommended) / Unbuffered ECC SDRAM
Front Panel	
Controls	<ul style="list-style-type: none">• Power ON/OFF• System ID• System reset• NMI button• 1 x USB
LEDs	<ul style="list-style-type: none">• Power• System ID• Alert• LAN• HDD
Drive Bays	
Drive Bays	<ul style="list-style-type: none">• Four(4) x 3.5" hot-swap SATA/SAS/SSD HDD bays• Two(2) x 2.5" internal SATA/SAS/SSD HDD bays
Expansion Slots	
Expansion Slots	<ul style="list-style-type: none">• 1 x PCIe X8 slot (low-profile)• 2 x PCIe X8 slots
Riser Card (included)	
PSG-RC-AQ1U-20-111	1U Gold finger PCIe X16 to 2 PCIe X8 Riser for Aquarius/Castorr
PSG-RC-CTOB-10-310	1U on-board PCIe Gen2 X8 to 1 PCIe X8 (low-profile, shifted) Riser for Castor
SATA/SAS Backplane	
SATA/SAS BP	One (1) x SAS/SATA 3G/6G 4-in-1 BP with SGPIO support
System BIOS	
BIOS Type	<ul style="list-style-type: none">• AMI BIOS• SPI (Serial Peripheral Interface) FLASH Interface

BIOS Features	<ul style="list-style-type: none"> • ACPI 1.0/2.0/3.0 • PXE 2.0 • WOL • AC loss recovery 	<ul style="list-style-type: none"> • IPMI KCS interface • SMBIOS 2.0 • Serial console redirection

On-Board Devices

SATA	Built-in Intel® ICH10R SATA2 controller with RAID support
IPMI	Aspeed AST2050 BMC <ul style="list-style-type: none"> • Intelligent Platform Management Interface 2.0 (IPMI 2.0) • iKVM, Media Re-direction, IPMI over LAN, Serial over LAN • SMASH support
Network Controllers	<ul style="list-style-type: none"> • Intel® 82571EB (Ophir) PCIe Dual-port GbE controller; external • Intel® 82574L (Hartwell) PCIe Single-port GbE controller; external (BMC Management) • Intel® 82567LM (Boazman) GLCI on ICH10R Single-port GbE PHY; external
Graphics	Aspeed AST2050 graphics controller <ul style="list-style-type: none"> • 8MB of memory • 1600 x 1200 @ 60 Hz
Super I/O	Winbond W83627DHG

Rear I/O

LAN	4 x RJ-45 ports
USB	2 x USB ports
VGA	1 x VGA port
Serial Port	1 x DB-9 serial port

Power Supply

Power Supply	650W 1+1 redundant power supply <ul style="list-style-type: none"> • 90-264VAC, 47-63 Hz
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System Cooling

System Cooling	<ul style="list-style-type: none"> • Four (4) 40x28mm easy-swap redundant fans • Two (2) 40x48mm easy-swap redundant fans
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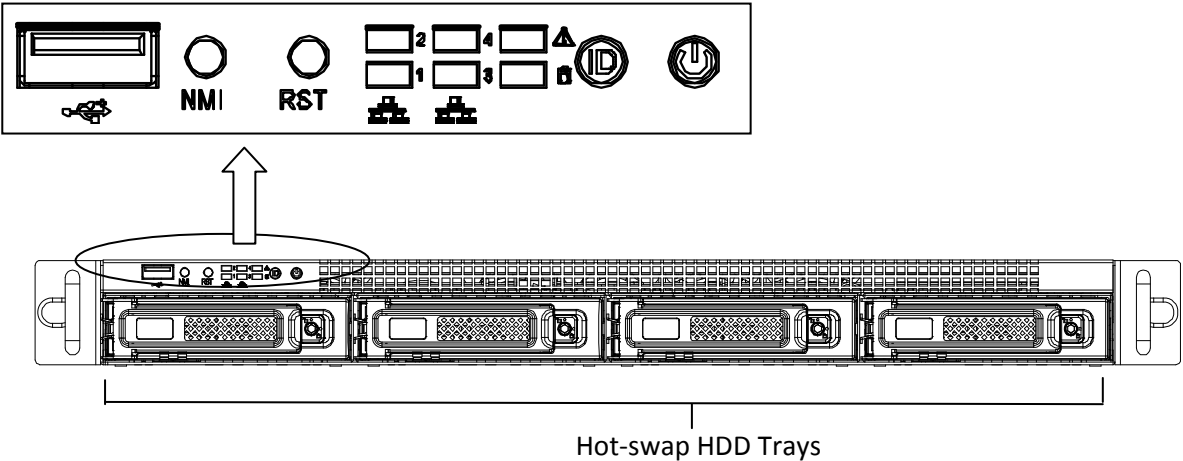
System Management

System Management	<ul style="list-style-type: none"> • IPMI 2.0 compliance • KVM over IP • Media redirection • CPU temperature (PCEI) • System temperature 	<ul style="list-style-type: none"> • Fan speed detection • Smart Fan speed control • System ID / System fail indicator • SMASH support • Remote Power ON/OFF/Reset
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Operating Environment

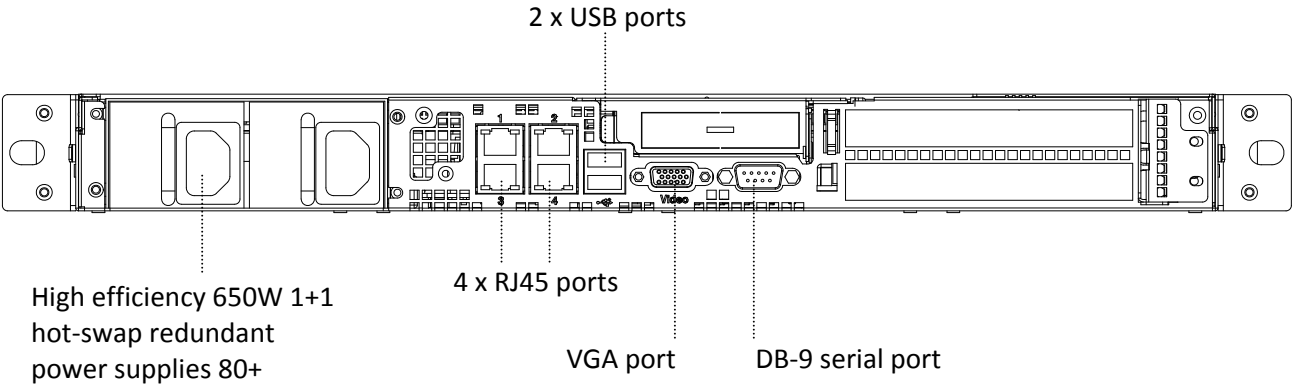
Environmental Specifications	<ul style="list-style-type: none"> • Operating Temperature: 0 ~ 35°C • Operating Altitude Condition: 0 ~ 10K feet • Storage Temperature: -20° ~ 60°C • System Relative Humidity: 5% to 95% (38°C) non-condensing
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1.3 Front View of GB109-CT



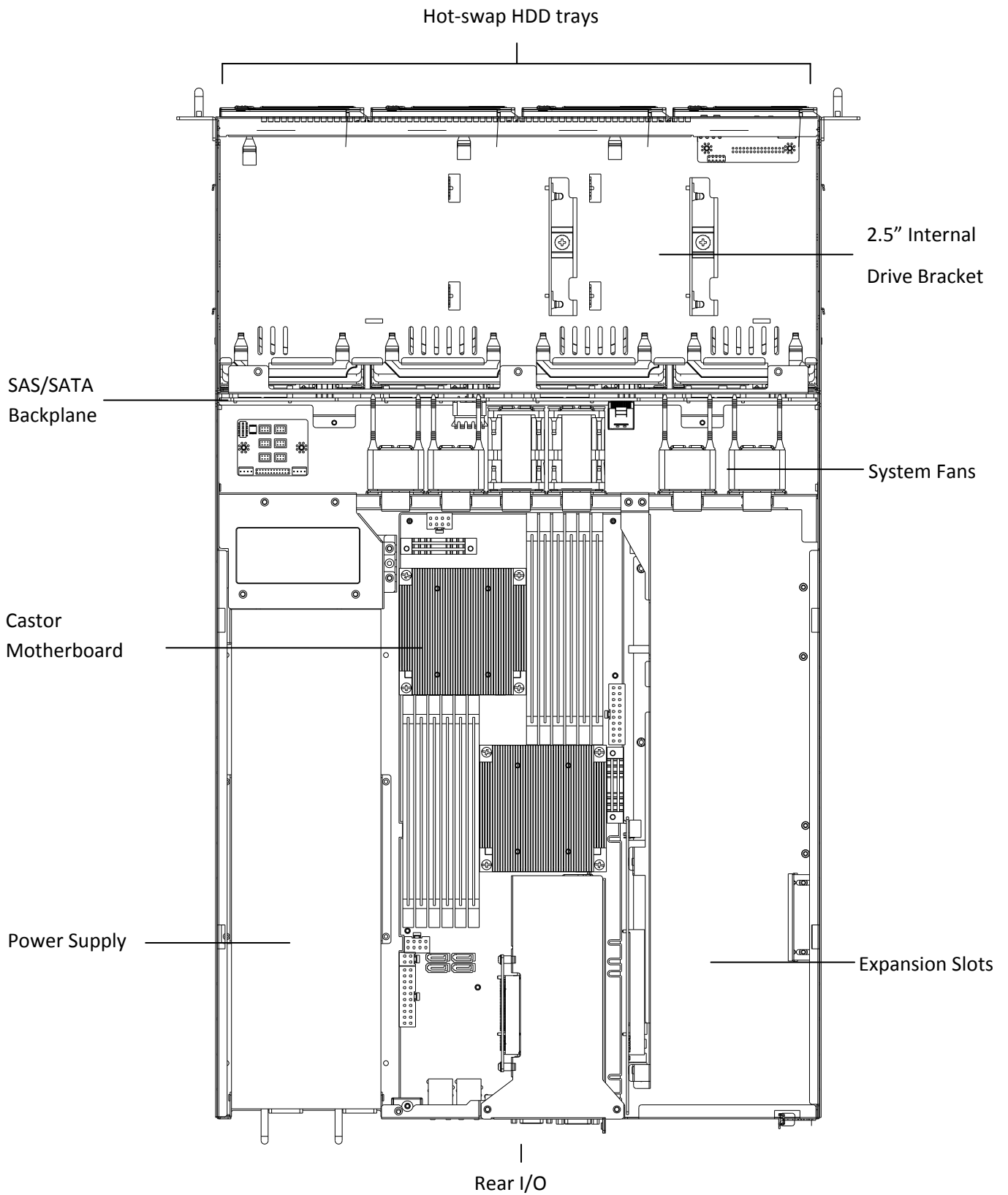
LED	Icon	Color	Behavior	Controls	Icon	System Behavior
Power LED		Green	Solid: System On Off: System Off	Power ON/OFF		Push for Power On or Off
System ID LED		Blue	System Identification Blink: Activity	System ID		Push for ID LED On or Off
Alert LED		Red	Light: System Alert	System Reset	RST	Push for System Reset
LAN LED		Green	Light: Link Blink: Activity	NMI	NMI	Non-maskable interrupt; Push for the highest priority interrupt in the system
HDD LED		Green	Blink: Activity	USB Port		For USB device connection

1.4 Rear View of GB109-CT



1.5 Top View of GB109-CT

The barebone server includes the basic components shown below.



Chapter 2.

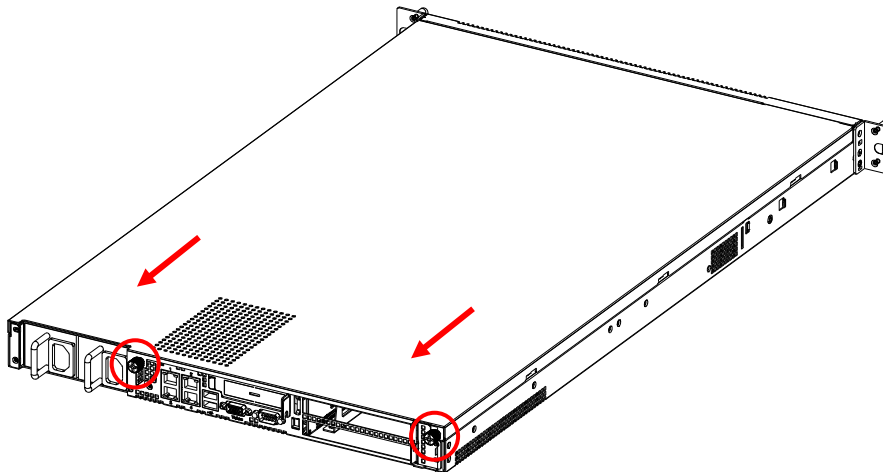
Hardware Setup

This section demonstrates maintenance procedures in replacing a defective part once the GB109-CT appliance is installed and is operational.

2.1 Chassis Cover

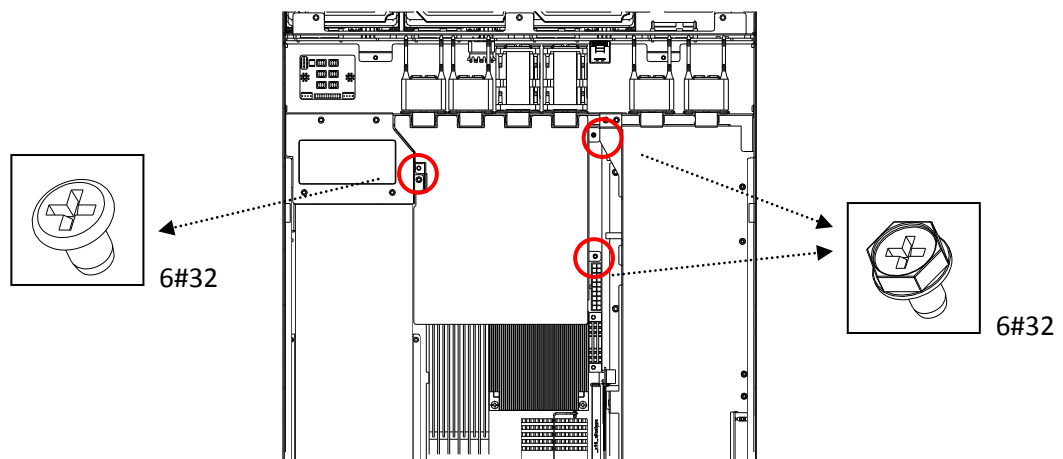
2.1.1 Removing the Chassis Cover

1. Release the two screws on the rear panel and pull the cover back to open the rear cover from chassis.



2.1.2 Removing the Fan Duct

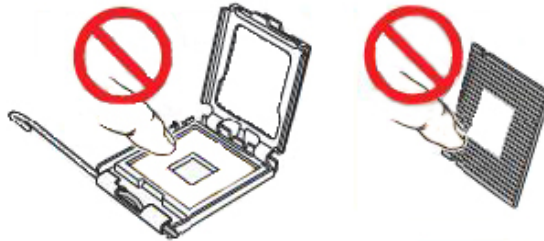
1. Release three screws to remove the fan duct.



2.2 Central Processing Unit (CPU)

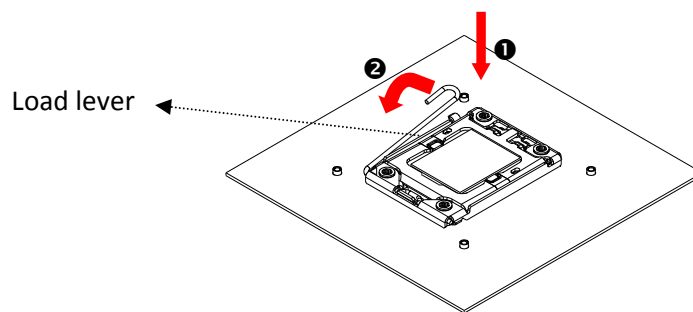


CAUTION : WHEN UNPACKING A PROCESSOR, HOLD THE PROCESSOR ONLY BY ITS EDGES TO AVOID TOUCHING THE CONTACTS.

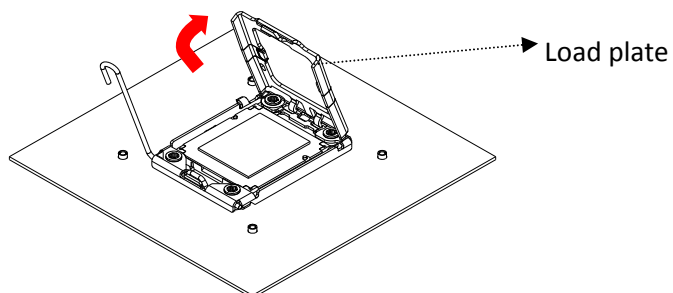


2.2.1 Installing the CPU

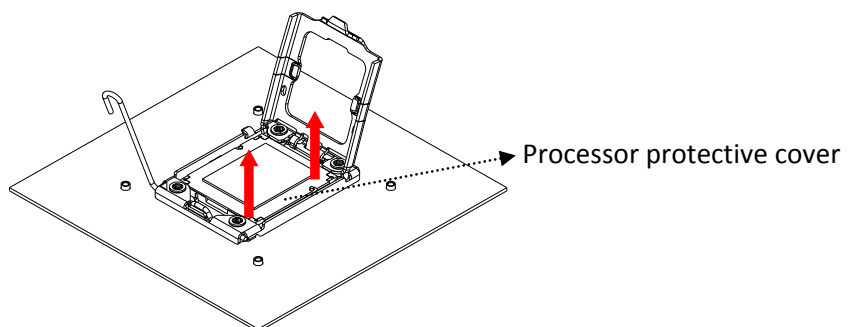
1. Press the load lever to release the load plate.



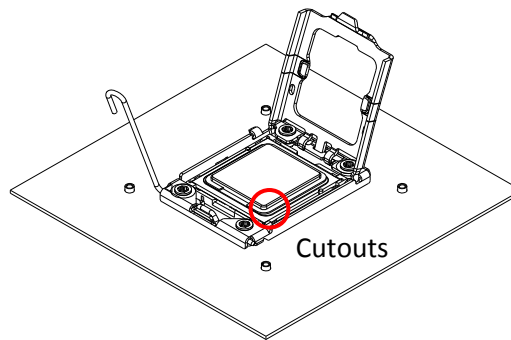
2. Lift the load plate.



3. Remove the processor protective cover from CPU socket.

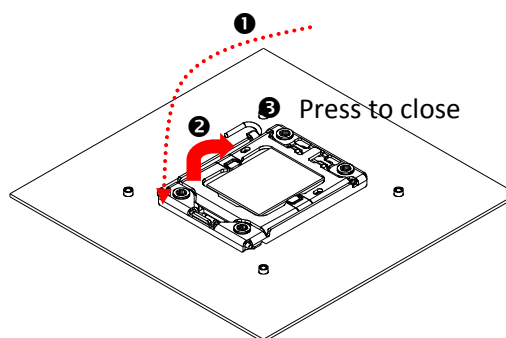


4. Align the processor cutouts against the socket notches.



CAUTION: THE PINS OF THE PROCESSOR SOCKET ARE VULNERABLE AND EASILY SUSCEPTIBLE TO DAMAGE IF FINGERS OR ANY FOREIGN OBJECTS ARE PRESSED AGAINST THEM. PLEASE KEEP THE SOCKET PROTECTIVE COVER ON WHEN PROCESSOR IS NOT INSTALLED.

5. Close the load plate & load lever.



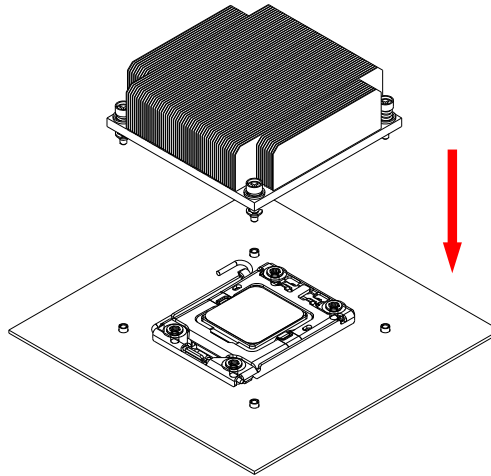
2.2.2 Installing the CPU Heatsink



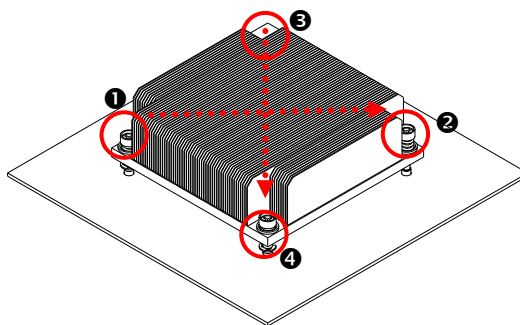
NOTE: APPLY THERMAL PASTE TO THE BOTTOM OF HEATSINK AND SPREAD IN AN EVEN THIN LAYER BEFORE INSTALLING THE HEATSINK.

To install the CPU heatsink:

1. Place the heatsink on top of the CPU, ensuring that the four fasteners match the holes on the motherboard.

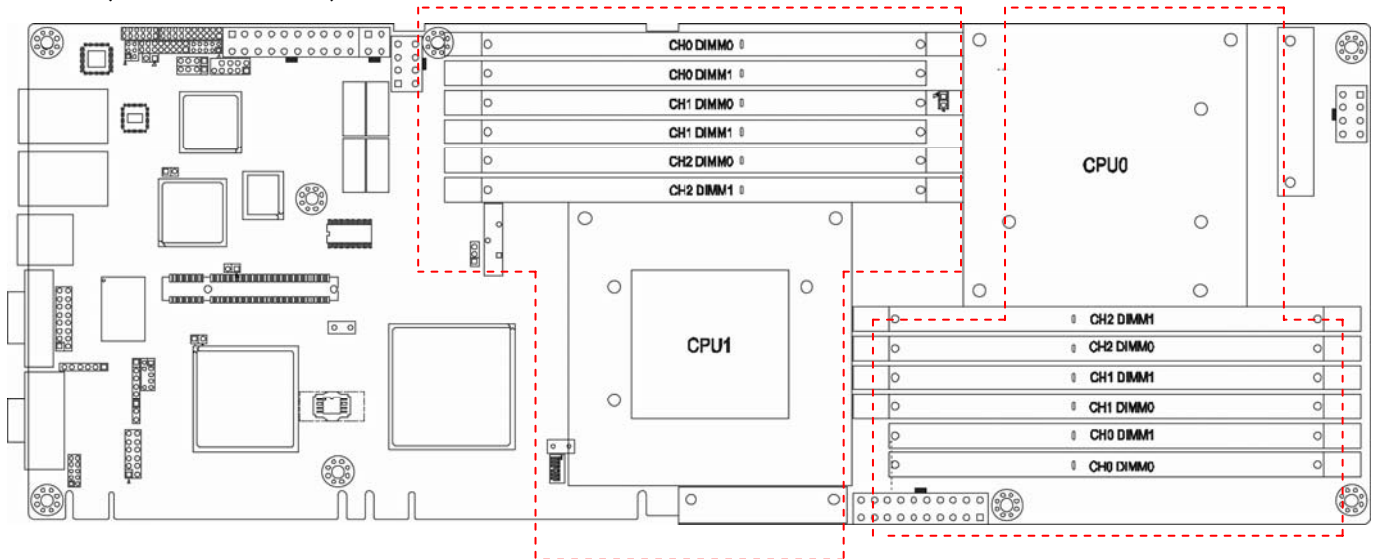


2. Tighten the four screws in a diagonal sequence, a couple of turns at a time, until all four screws are secure and the heatsink is securely fastened to the chassis.



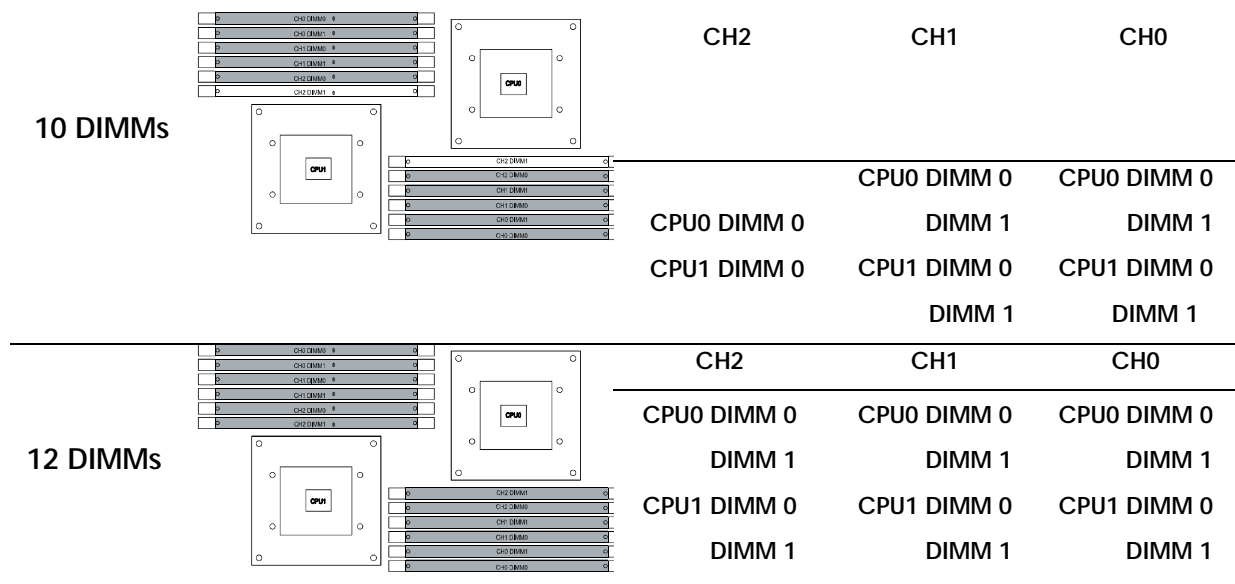
2.3 System Memory

This server board supports up to twelve DDR3 800/1066/1333 Registered ECC SDRAM (recommended) / Unbuffered ECC SDRAM.

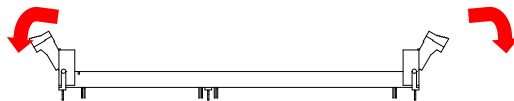


1. Populate DIMMs in the following order:

DIMM Numbers	DIMM arrangement		
	CH2	CH1	CH0
2 DIMMs	-	-	CPU0 DIMM 0
			CPU1 DIMM 0
4 DIMMs	-	CPU0 DIMM 0	CPU0 DIMM 0
		CPU1 DIMM 0	CPU1 DIMM 0
6 DIMMs	CPU0 DIMM 0	CPU0 DIMM 0	CPU0 DIMM 0
	CPU1 DIMM 0	CPU1 DIMM 0	CPU1 DIMM 0
8 DIMMs	CPU0 DIMM 0	CPU0 DIMM 0	CPU0 DIMM 0
	CPU1 DIMM 0	CPU1 DIMM 0	CPU1 DIMM 0



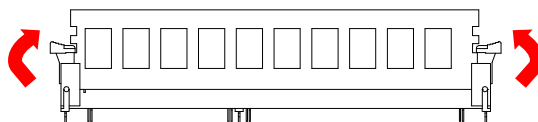
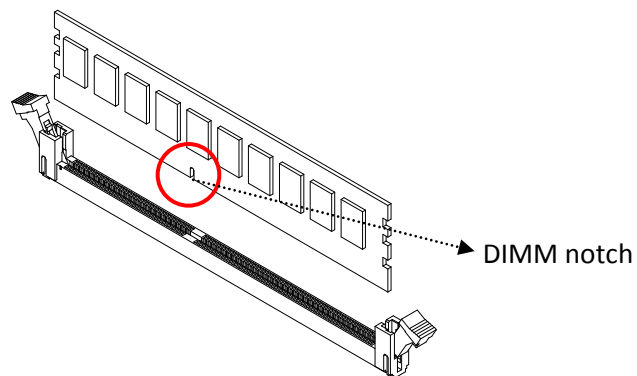
2. Unlock a DIMM socket by pressing the retaining clips outward.



3. Insert module vertically and press down until it snaps into place.



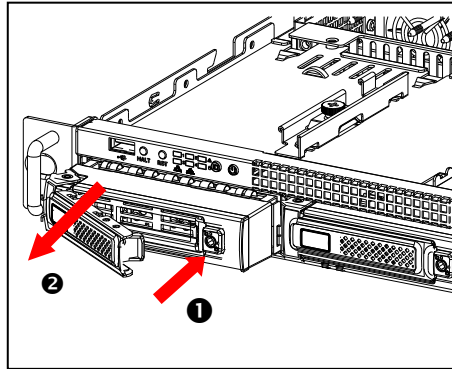
NOTE: DIMM NOTCH AND SOCKET BUMP MUST ALIGN AS SHOWN.



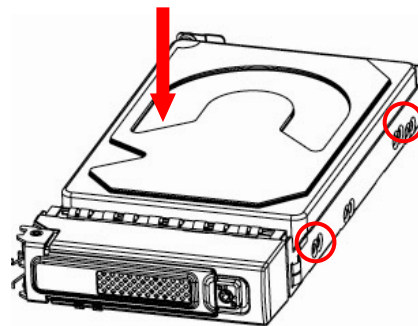
2.4 Drive Bays

2.4.1 Installing or Replacing 3.5" Hot-swap SAS/SATA HDD

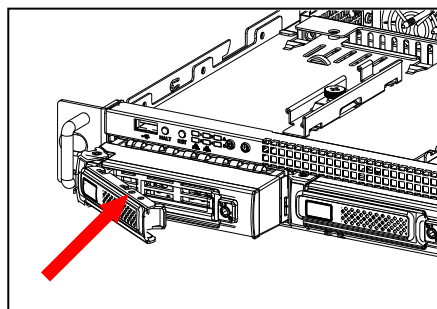
1. Release a drive tray by pressing the unlock button and pinching slightly the lock lever and pulling out the drive tray.
2. Firmly hold the tray lever and pull the drive out of the bay.



3. Place the 3.5" HDD on the tray and then secure it with four screws from the both sides of HDD tray.



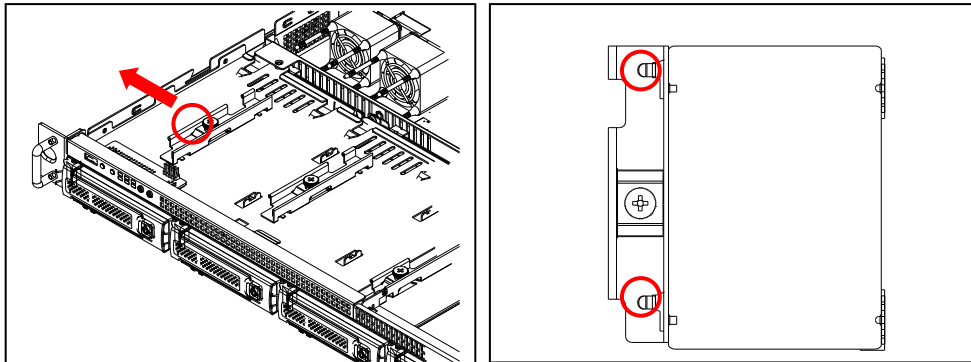
4. Insert the drive carrier into its bay. Push the tray lever until it clicks. Make sure the drive tray is correctly secured in place when its front edge aligns with the bay edge.



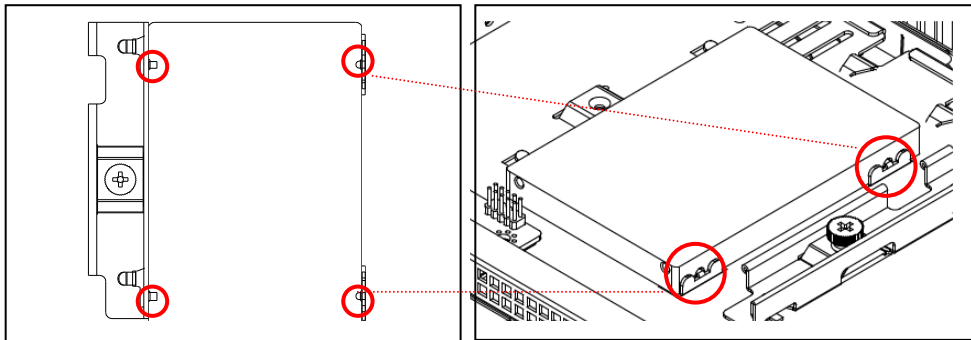
5. Repeat Steps 1 through 4 to install the rest of HDDs.

2.4.2 Installing or Replacing 2.5" Internal SAS/SATA HDD

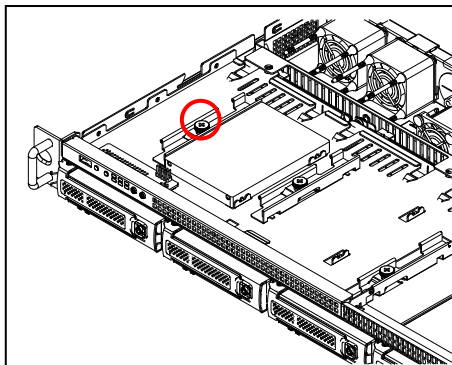
1. Release the thumb screw. Pull the bracket holder outward to remove the bracket from the hooks on the chassis.



2. Place the 2.5" HDD. There are two pins on each side of the chassis and bracket holder. Align the 2.5" HDD into the pins.



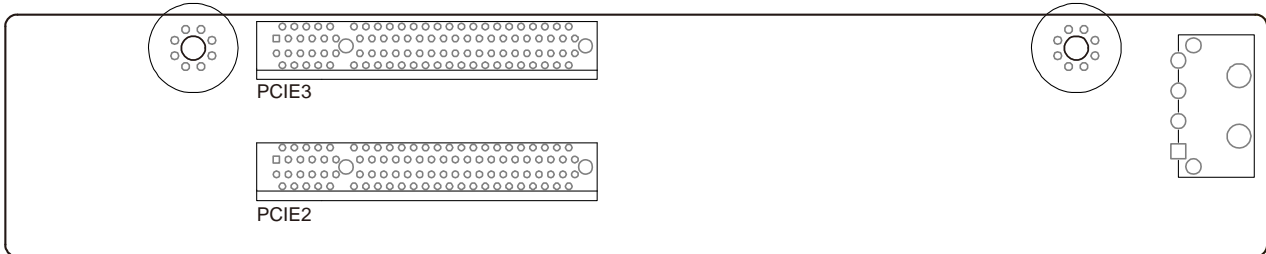
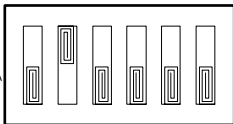
3. Tighten the thumb screw.



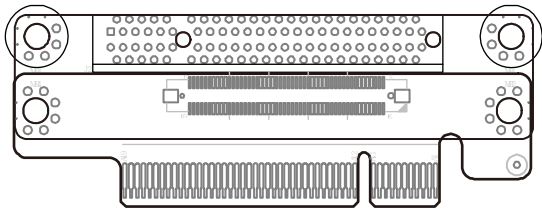
4. Repeat Steps 1 through 4 to install the rest of HDDs.

2.5 Riser Card

1.

RISER CARD PN (PSG CODE)		DESCRIPTION		
PSG-RC-AQ1U-20-111 (PE1U04)		1U Gold finger PCIe X16 to 2 PCIe X8 Riser for Aquarius/Castor		
RISER CARD DIAGRAM				
				
Slot Bandwidth				
PCIE3	X8			
PCIE2	X8			
Default Switch				
On Motherboard				
<div><div><div>ON</div><div>OFF</div></div><div></div><div>SW1123456</div></div>				

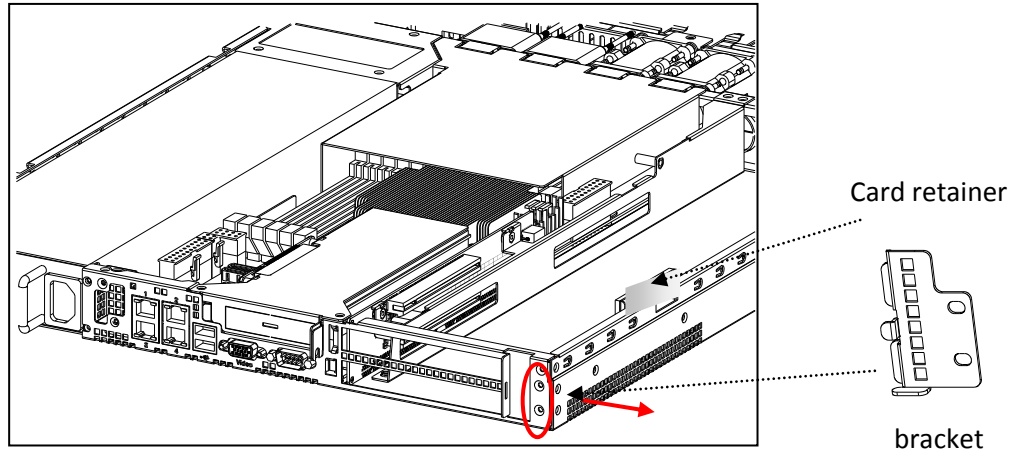
2.

RISER CARD PN (PSG CODE)	DESCRIPTION
PSG-RC-CTOB-10-310 (PEX804 + PEX805)	1U on-board PCIe Gen2 X8 to 1 PCIe X8 (low-profile, shifted) Riser for Castor
RISER CARD DIAGRAM	
	
Slot Bandwidth: X8	

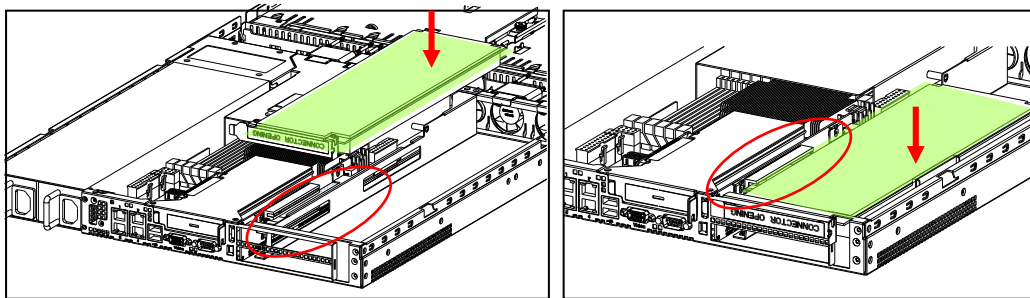
2.6 Expansion Slot

2.6.1 Install an External Expansion Card to the Riser Card

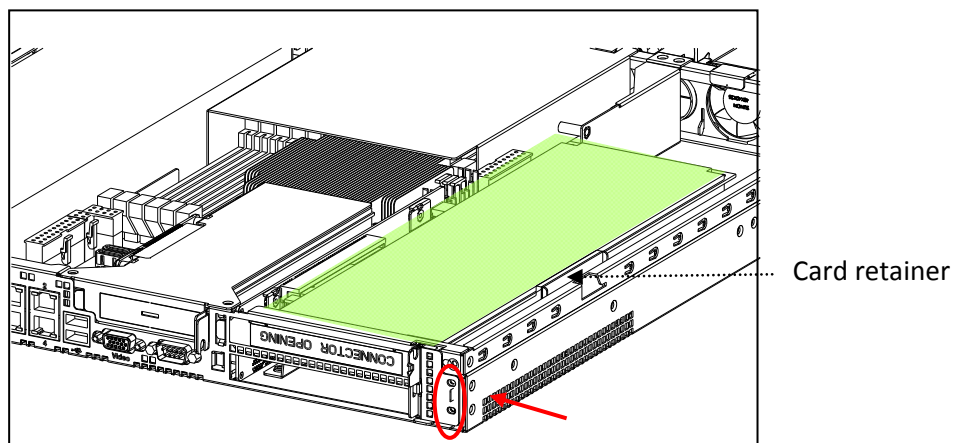
1. Remove two screws to release the bracket. Then remove the card retainer in the chassis.



2. Install the expansion card into the proper slot and connect the expansion card to the riser card.

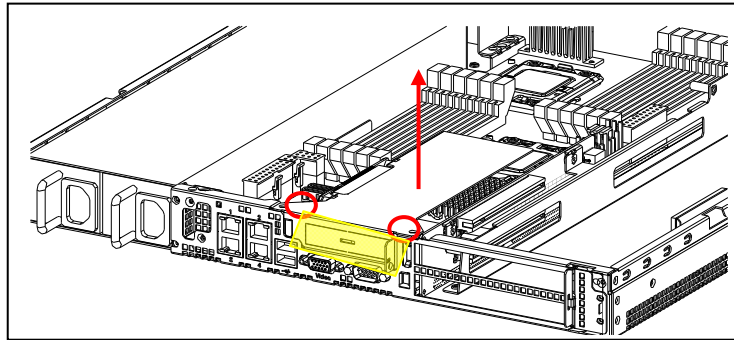


3. Secure the bracket back with the two screws and card retainer to fix the expansion card.

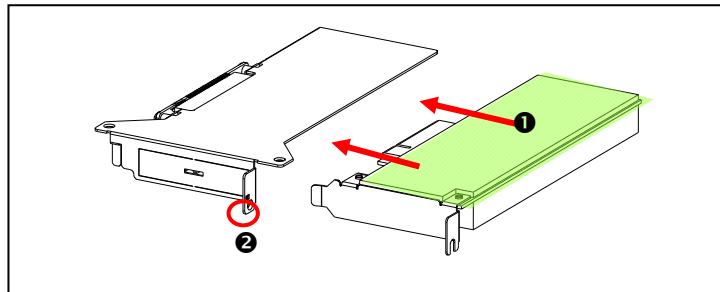


2.6.2 Install an External Expansion Card to the Riser Card (Low-profile)

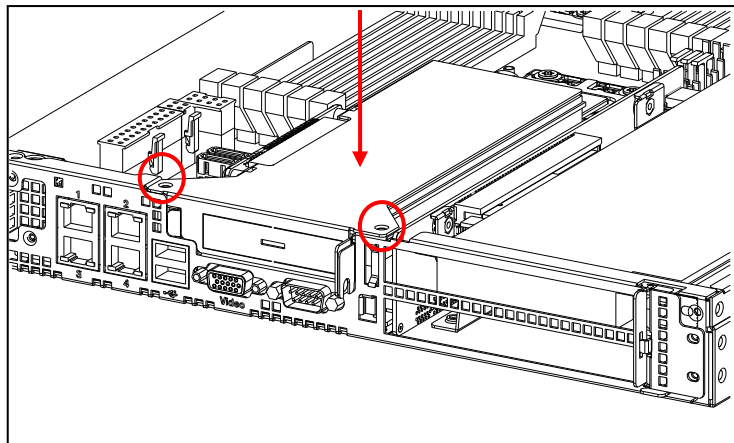
1. Remove two screws on top of the bracket holder and twist out the metal plate to insert expansion card I/O ports.



2. Connect the expansion card into the riser card slot which is located under the bracket holder. Secure it with one screw.



3. Secure the bracket back with the screws to fix the expansion card.



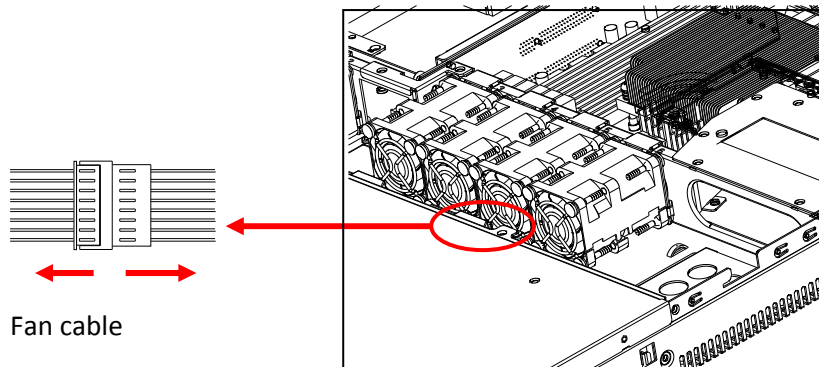
2.7 System Fans



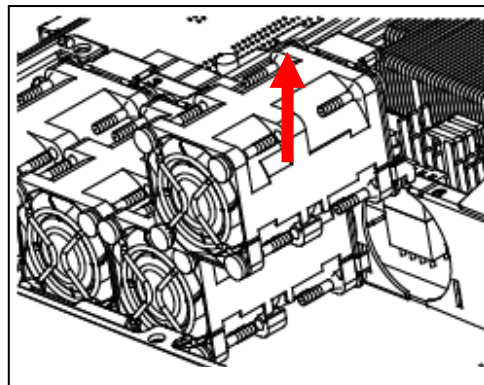
CAUTION: SHUT DOWN THE SYSTEM BEFORE REMOVING THE SYSTEM FANS.

2.7.1 Removing or Replacing the System Fans

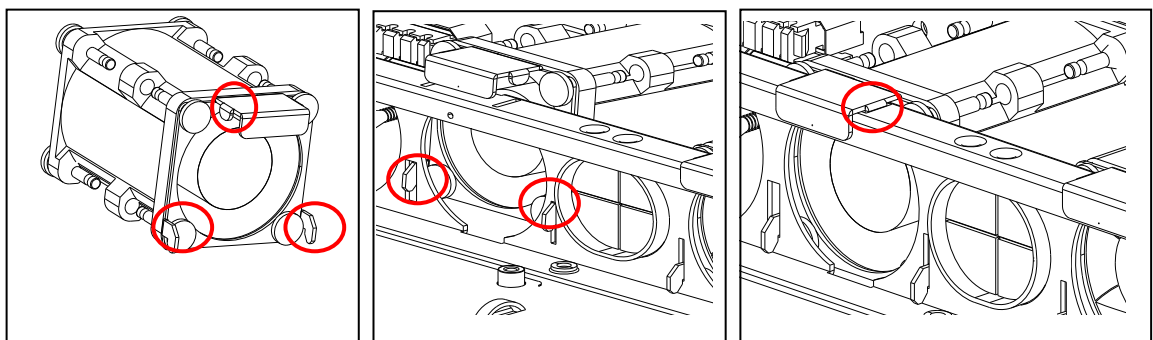
1. Disconnect the fan cable.



2. Remove the fan by lifting it from the server chassis and pulling it out.



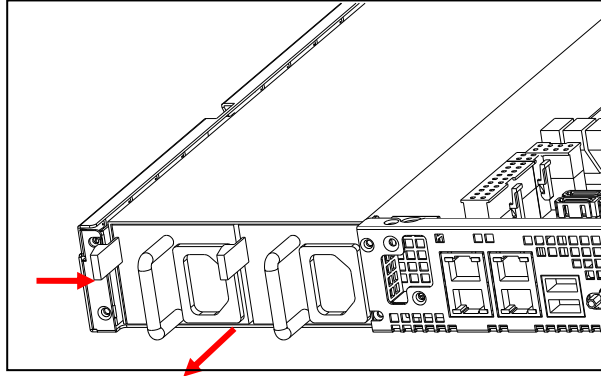
3. Install the fan by connecting the fan hooks to the holes on the chassis. Start with the bottom hooks and finish by securely connecting the top hooks.



2.8 Power Supply

2.8.1 Removing or Replacing the Power Supply Module

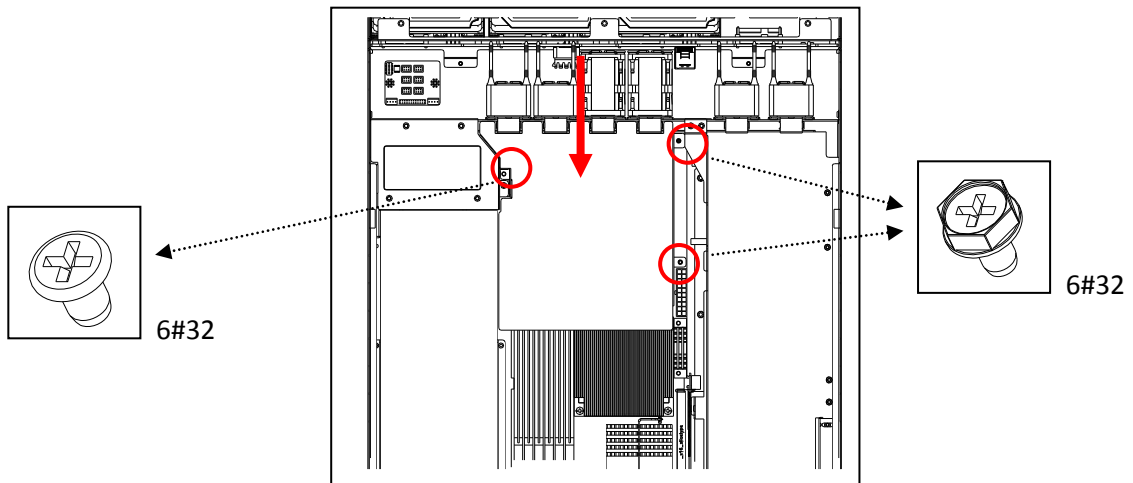
1. Hold the PSU lever and firmly pull the PSU out of the server chassis.



2.9 Fan Duct

2.9.1 Installing the Fan Duct

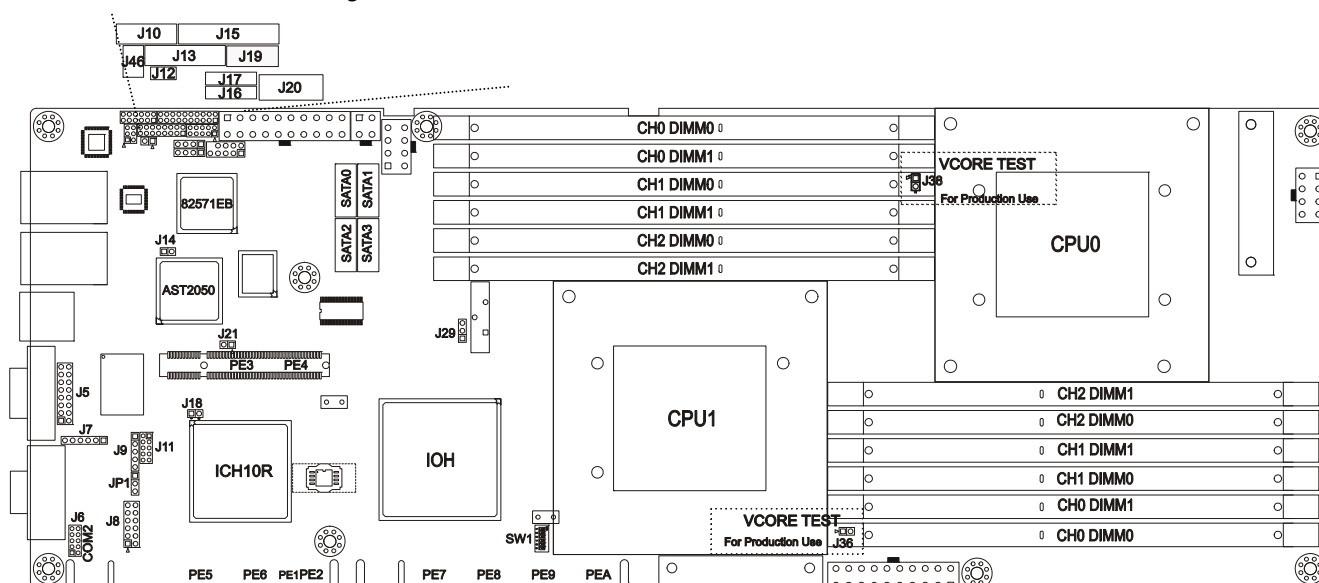
1. Put the fan duct on the fan bar and secure with three screws.



Motherboard Settings

This section describes the jumper settings of AIC's Castor PSG-M-CTD036D-110 motherboard. We will show the motherboard layout and important jumper settings of the system.

3.1 Motherboard Layout

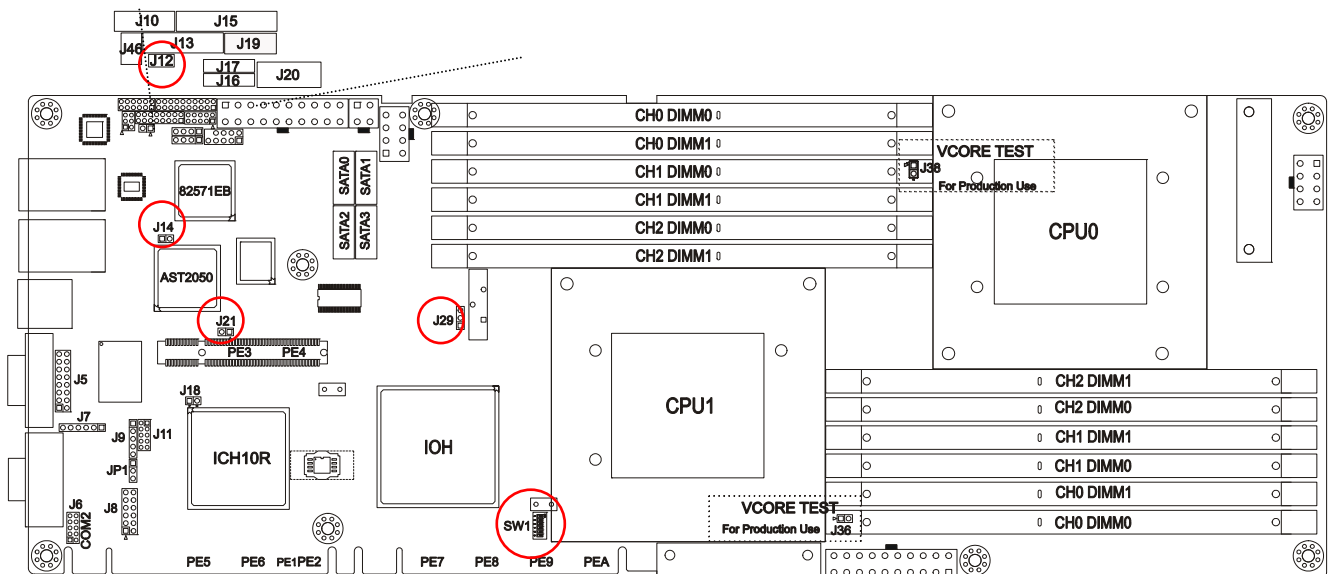


3.2 Motherboard Content List

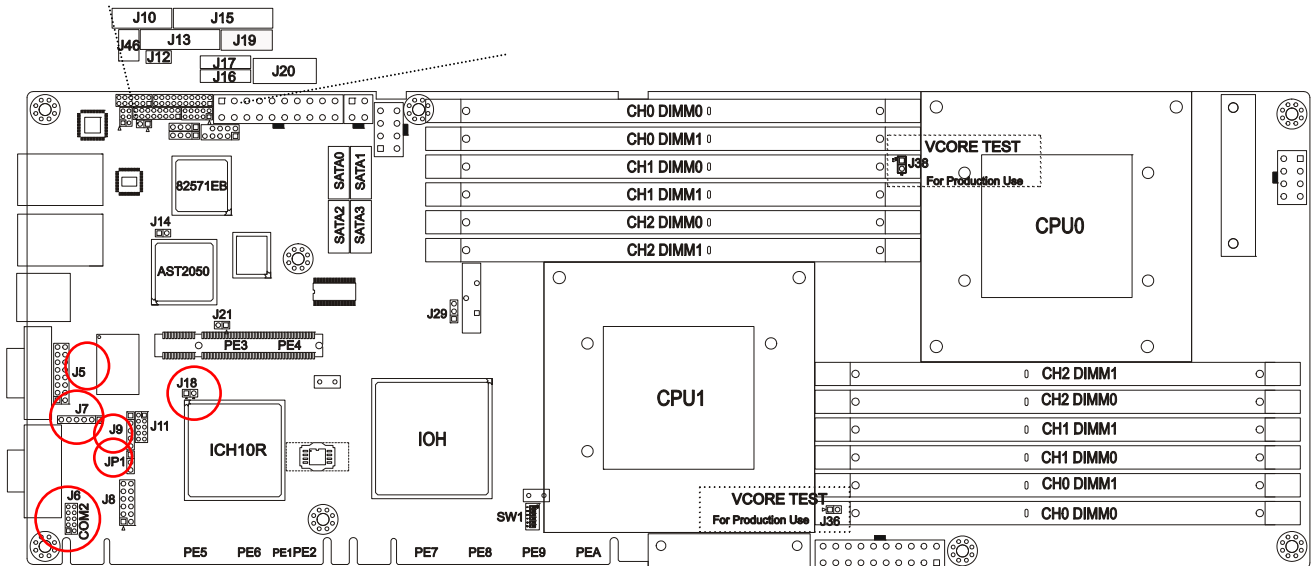
Jumpers		Location
1	VGA DISABLE	J14
2	AST ARM	J21
3	AST ARM RESET	J12
4	CLEAR CMOS	J29
5	PCIe Strapping Configuration	SW1
Internal Connectors		Location
1	BMC DEBUG	JP1
2	UART/COM2	J6
3	VGA HEADER	J5
4	KB/MS	J7
5	LCM CONN	J19
6	BUZZER (5V)	J18

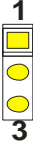





Internal Connectors		Location
7	BMC GPIO	J46
8	GPIO	J11
9	PSU I2C	J17
10	IPMB I2C	J16
11	USB	J20
12	FAN BOARD CONNECTOR	J13
13	SIO FAN CONN UP	J10
Internal LEDs		Location
1	LAN LED	J19
2	DEBUG PORT	J8
3	FRONT PANEL	J15

3.2.1 Jumpers

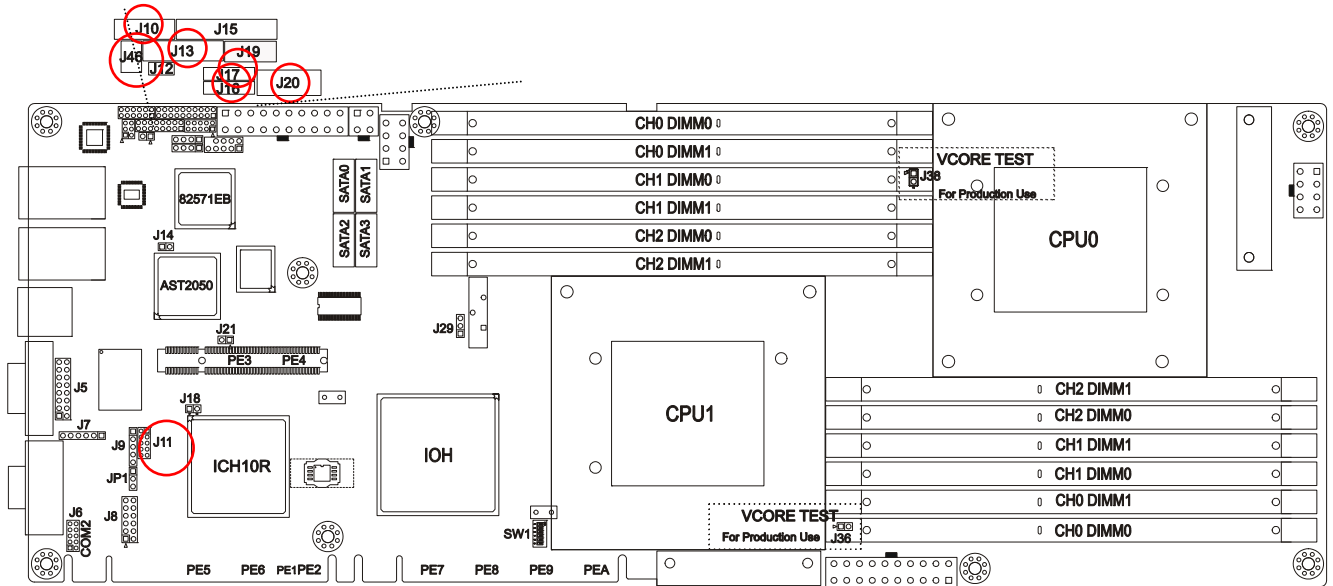
[illegible]

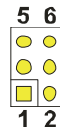
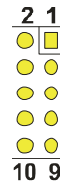


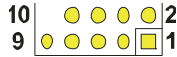
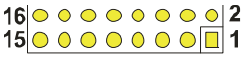
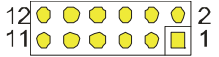
3.2.2 Internal Connectors



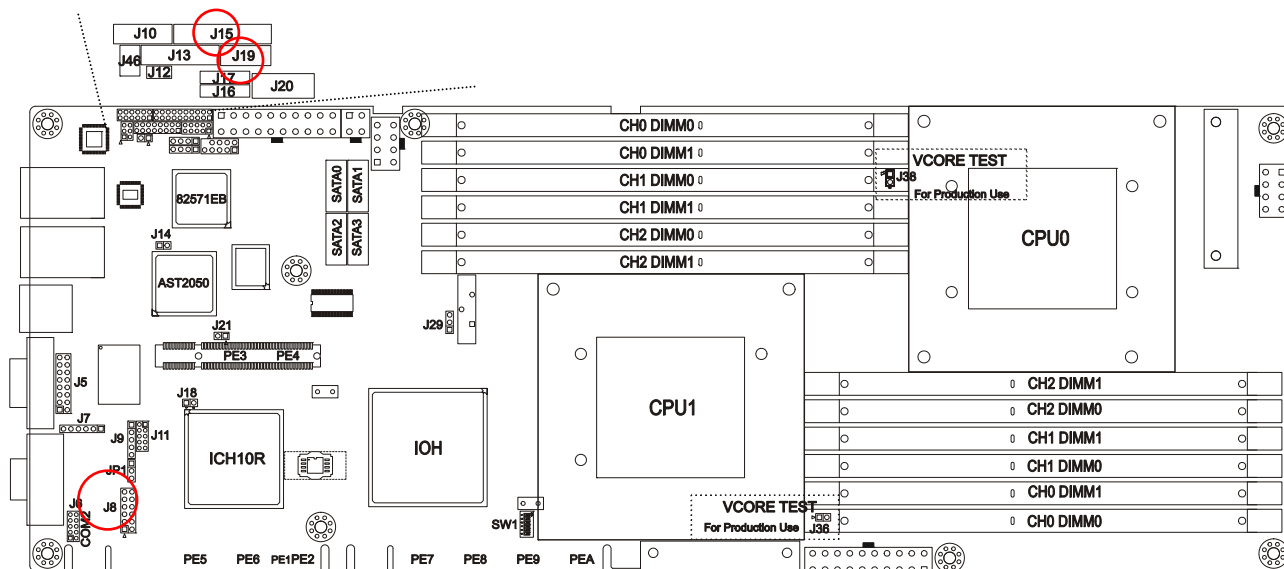
JP1	BMC DEBUG		1.Tx 2.Rx 3.GND
J6	UART/COM2		9.NC 10.GND 7.RI# 8.DTR# 5.CTS# 6.TXD 3.RTS# 4.RXD 1.DSR# 2.DCD#
J5	VGA HEADER		15.GND 16.CLK 13.GND 14.GND 11.V_SYNC 12.DVO_5V 9.NC 10.H_SYNC 7.GND 8.BLUE 5.DATA 6.GND 3.GREEN 4.NC 1.GND 2.RED
J7	KB/MS		1.KB_DATA 2.+5V 3.KB_CLK 4.MS_CLK 5.MS_DATA 6.GND
J9	LCM CONN		1.POWER_BTN 2.RESET_BTN 3.TX 4.RX 5.GND
J18	BUZZER (5V)		1. BUZZER+ 2. BUZZER-

3.2.3 Internal Connectors (continue)



J46	BMC GPIO		5.BMC_GPIOE6 6.BMC_GPIOB2 4.BMC_GPIOB7 3.BMC_GPIOE7 1.GND 2.BMC_GPIOH3
J11	GPIO		2.3.3V 1.GND 4.GPIOF33 3.GPIOF0 6.GPIOF32 5.GPIOF1 8.GPIOF22 7.GPIOF6 10.GPIOF37 9.GPIOF17
J17	PSU I2C		1.5V_AUX 2.I2C_CLK 3.I2C_DATA 4.GND
J16	IPMB I2C		1.I2C_DATA 2.GND 3.I2C_CLK 4.NC
J20	USB		1.USB5V 2.USB5V 3.USBBD- 4.USBBD- 5.USBBD+ 6.USBBD+ 7.GND 8.GND 9.GND 10.NC
J13	FAN BOARD CONNECTOR		1.GND 2.3.3V 3.I2CSCL 4.I2CSDA 5.PWM1 6.FAN1_TACH 7.PWM2 8.FAN2_TACH 9.PWM3 10.FAN3_TACH 11.PWM4 12.FAN4_TACH 13.FAN6_TACH 14.FAN5_TACH 15.GND 16.GND
J10	SIO FAN CONN UP		1.FAN7_TACH 2.FAN8_TACH 3.FAN1_TACH 4.PWM1 5.FAN2_TACH 6.PWM2 7.FAN3_TACH 8.PWM3 9.FAN4_TACH 10.PWM4 11.GND 12.GND

3.2.4 Internal LEDs



J19	LAN LED		LED ON=LAN LINK LED BLINK=ACTIVE 1.GbE1 LED# 2.GbE1 LED+ 3.GbE2 LED# 4.GbE2 LED+ 5.GbE3 LED# 6.GbE3 LED+ 7.GbE4 LED# 8.GbE4 LED+ 9.NC 10.3.3V
J8	DEBUG PORT		1.GND 2.CLK_33M 3.NC 4.ICH_LPC_LFRAME# 5.NC 6.SIO_PLTRST# 7.ICH_LPC_LAD1 8.ICH_LPC_LAD3 9.ICH_LPC_LAD2 10.+3.3V 11.GND 12.ICH_LPC_LAD0
J15	FRONT PANEL		1.PWR LED+ 2.PWR BTN 3.PWR LED# 4.GND 5.HDD LED+ 6.RST BTN 7.HDD LED# 8.GND 9.SYS ID LED+ 10.FP ID BTN 11.SYS ID LED# 12.GND 13.SYS FLT LED+ 14.FP NMI BTN 15.SYS FLT LED# 16.GND 17.SB SMB DATA 18.5VSB 19.SB SMB CLK 20.GND

Chapter 4.

BIOS Configuration and Settings



CAUTION: WHEN QUIET BOOT IS ENABLED, OEM LOGO WILL BE DISPLAYED INSTEAD OF POST MESSAGES.

4.1 BIOS Setting

1. Press **DEL** to run the setup procedure.

```

American Megatrends
www.ami.com

AMIBIOS(C) 2006 American Megatrends, Inc.
  BIOS Version:GEMIU210  Date:08/17/2010
CPU : Intel(R) Xeon(R) CPU X5677 @ 3.47GHz
Speed : 1.60 GHz  Count : 8

DDR Frequency is Running at : N/A
Press DEL to run Setup (F4 on Remote Keyboard)
Press F11 for BBS POPUP (F3 on Remote Keyboard)
BMC Initializing Virtual USB Device .. Done
Initializing USB Controllers .. Done.
1016MB OK
USB Device(s): 1 Keyboard, 1 Mouse, 1 Hub

0075
```

2. There will be a message "Entering SETUP" displayed on the diagnostics screen.

```

American Megatrends
www.ami.com

AMIBIOS(C) 2006 American Megatrends, Inc.
  BIOS Version:GEMIU210  Date:08/17/2010
CPU : Intel(R) Xeon(R) CPU X5677 @ 3.47GHz
Speed : 1.60 GHz  Count : 8

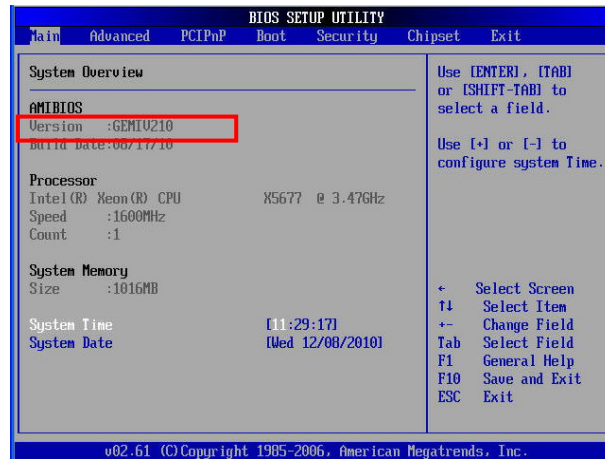
DDR Frequency is Running at : N/A
Entering SETUP...
Press F11 for BBS POPUP (F3 on Remote Keyboard)
BMC Initializing Virtual USB Device .. Done
Initializing USB Controllers .. Done.
1016MB OK
USB Device(s): 1 Keyboard, 1 Mouse, 1 Hub

0075
```

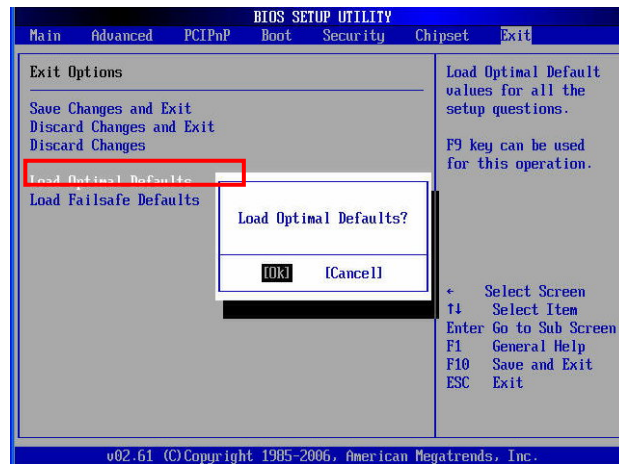


CAUTION: FOR THE OFFICIAL RELEASED VERSION, THE LAST DIGIT OF THE BIOS VERSION MUST END IN AN "0."

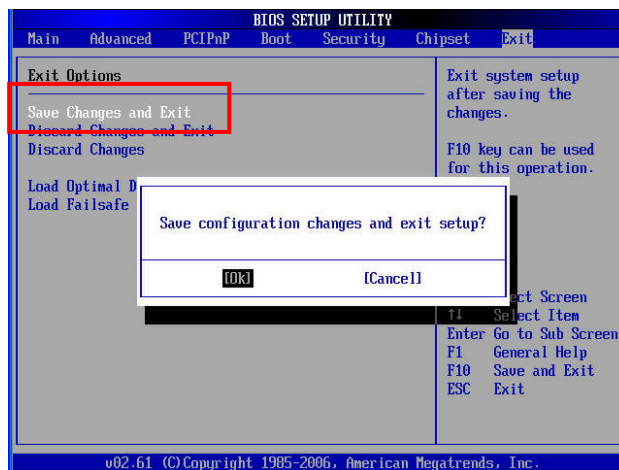
3. Identify the BIOS Version



4. Load Optimal Default setting



5. Save the setting and exit the BIOS setup utility.



4.2 Updating BIOS

1. AFUDOS is a BIOS update utility with command line interface that works in DOS environment.
2. The latest BIOS version is available from the FAE or AIC website.
3. Enter "flash" at the DOS command line.
4. Reboot the system after the update.

```
A:\AQUAV120>flash
A:\AQUAV120>afudos AQUAV120.ROM /p /b /n /c
-----
          AMI Firmware Update Utility  Ver.4.23
      Copyright (C)2007 American Megatrends Inc. All Rights Reserved.
-----
- Bootblock checksum .... ok
- Module checksums ..... ok
- Erasing flash ..... done
- Writing flash ..... done
- Verifying flash ..... done
- Erasing NVRAM ..... done
- Writing NVRAM ..... done
- Verifying NVRAM ..... done
- Erasing Bootblock ..... done
- Writing Bootblock ..... done
- Verifying Bootblock ... done
- CMOS checksum destroyed
- Program ended normally.

A:\AQUAV120>
A:\AQUAV120>
```



CAUTION: DO NOT SHUT DOWN THE SYSTEM WHILE THE BIOS IS UPDATING.

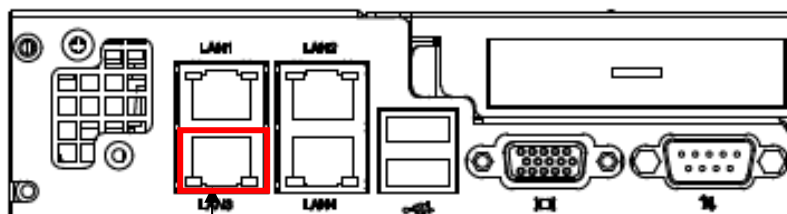


CAUTION: THE SYSTEM WILL REBOOT AFTER EXITING THE BIOS UPDATE UTILITY.

Chapter 5.

BMC Configuration and Settings

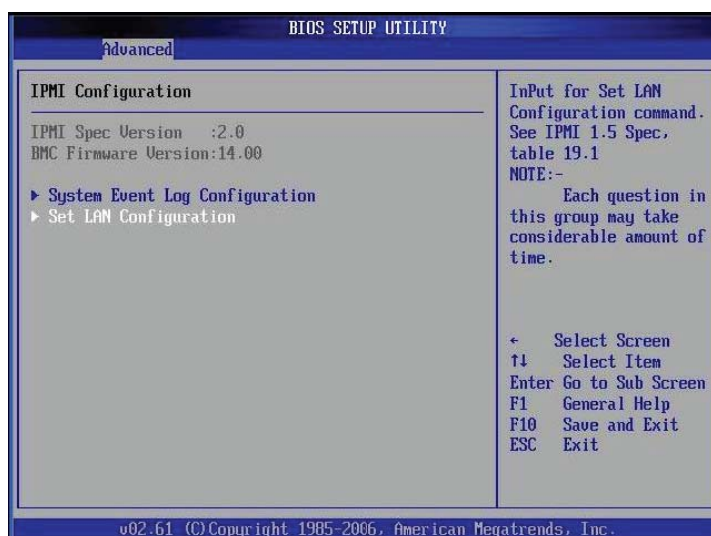
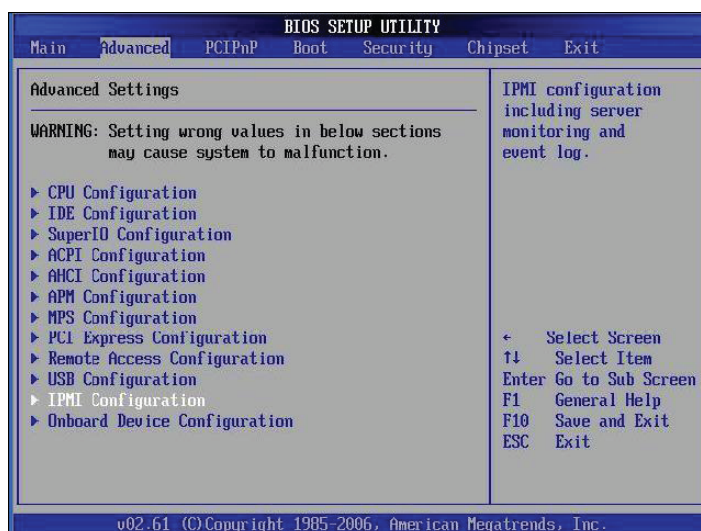
Insert BMC IP LAN into the BMC LAN port. There are two methods to setup BMC IP:



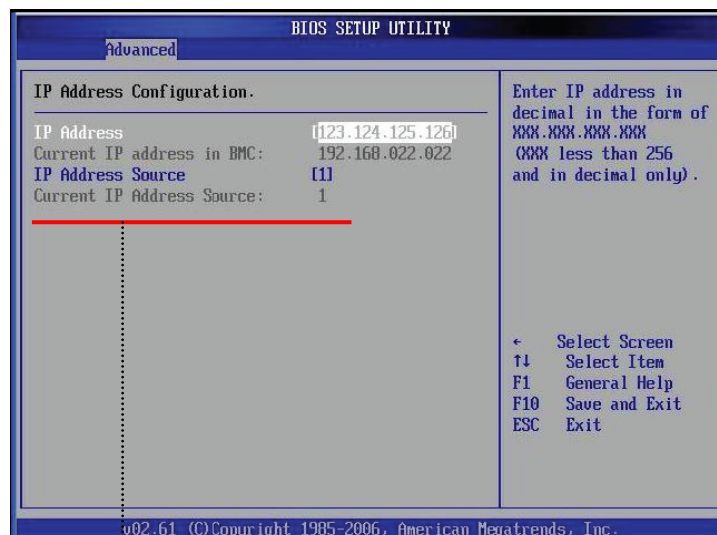
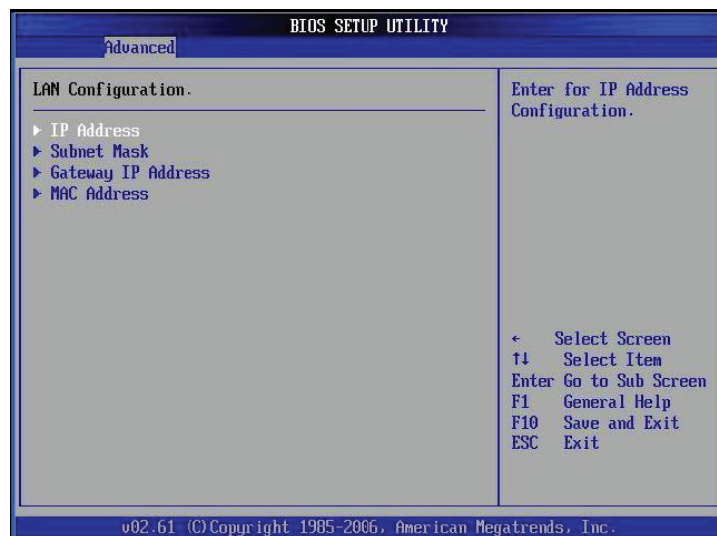
BMC management port

5.1 Method 1 (Use the BIOS setup)

1. BIOS SETUP -> Advance -> IPMI configuration -> Set LAN configuration



2. Input IP address. Set IP static.



NOTE: TYPE "1" FOR SELECTING STATIC IP MODE OR TYPE "2" FOR SELECTING DHCP MODE.

3. Input subnet mask address.

BIOS SETUP UTILITY	
Advanced	
LAN Configuration. <ul style="list-style-type: none">▶ IP Address▶ Subnet Mask▶ Gateway IP Address▶ MAC Address	Enter for Subnet Mask Configuration. ← Select Screen ↑↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

BIOS SETUP UTILITY	
Advanced	
Subnet Mask Configuration. Subnet Mask [255.255.255.000] Current Subnet Mask in BMC: 255.255.255.000	Enter Subnet Mask in decimal in the form of XXX.XXX.XXX.XXX (XXX less than 256 and in decimal only). ← Select Screen ↑↓ Select Item F1 General Help F10 Save and Exit ESC Exit
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

5.2 Method 2 (Use a Dos tool - Syscheck)

1. Type : `sc -lanset`.

```
C:\>sc -lanset
```

2. Modify IP setting.

```
C:\>sc -lanset
syscheck version 1.2.3

-----
-lanset          Set LAN configuration
Internet Protocol Please input 1 or 2
                  1 :Static IP enable
                  2 :DHCP enable
IP               IP       :192.168.0.2
Submask          Submask  :255.255.255.0
Gateway          Gateway  :192.168.0.254
-----

Present LAN Configuration:
DHCP      : disable
Static IP: enable
IP        : 192.168. 22. 22
Submask   : 255.255.255. 0
Gateway   : 0. 0. 0. 0
Do you want to Modify? (Y or y to Modify / any key to Exit)
y

Internet Protocol
(1 :Static IP enable / 2 :DHCP enable)
(Please input 1 or 2):1
```



NOTE: TYPE 1 FOR SELECTING STATIC IP MODE OR TYPE 2 FOR SELECTING DHCP MODE.

3. Input IP address.

```
                  1 :Static IP enable
                  2 :DHCP enable
IP               IP       :192.168.0.2
Submask          Submask  :255.255.255.0
Gateway          Gateway  :192.168.0.254
-----

Present LAN Configuration:
DHCP      : disable
Static IP: enable
IP        : 192.168. 22. 22
Submask   : 255.255.255. 0
Gateway   : 0. 0. 0. 0
Do you want to Modify? (Y or y to Modify / any key to Exit)
y

Internet Protocol
(1 :Static IP enable / 2 :DHCP enable)
(Please input 1 or 2):1
                        Check DHCP: 1

Modify IP address?
(Y or y to Modify / any key to Check Next) y
IP      : 192.168.22.22_
```

4. Input submask address.

Below IP address is an example using a default IP setting. User is allowed to change the IP address for realistic use.

```
-----
Present LAN Configuration:
DHCP      : disable
Static IP: enable
IP        : 192.168.22.22
Submask   : 255.255.255.0
Gateway   : 0.0.0.0
Do you want to Modify? (Y or y to Modify / any key to Exit)
y

Internet Protocol
(1 :Static IP enable / 2 :DHCP enable)
(Please input 1 or 2):1
                Check DHCP: 1

Modify IP address?
(Y or y to Modify / any key to Check Next) y
IP              : 192.168.22.22
                The IP Address: 192.168.22.22 is valid

Modify Submask address?
(Y or y to Modify / any key to Check Next) y
Submask         : 255.255.255.0_
```

5. Finish BMC IP configuration.

```
Do you want to Modify? (Y or y to Modify / any key to Exit)
y

Internet Protocol
(1 :Static IP enable / 2 :DHCP enable)
(Please input 1 or 2):1
                Check DHCP: 1

Modify IP address?
(Y or y to Modify / any key to Check Next) y
IP              : 192.168.22.22
                The IP Address: 192.168.22.22 is valid

Modify Submask address?
(Y or y to Modify / any key to Check Next) y
Submask         : 255.255.255.0
                The Submask: 255.255.255.0 is valid

Modify Gateway address?
(Y or y to Modify / any key to Exit) +
                Completed.

C:\>
```



NOTE: TYPE SC.EXE -LANGET COMMAND TO OBTAIN BMC IP AND MAC ADDRESS.

```
C:\>sc -langet
syscheck version 1.2.3
-----

IP           : 192.168.22.22
Submask      : 255.255.255.0
Gateway      : 0.0.0.0
MAC          : 00-15-B2-A1-29-27
DHCP         : disable
Static IP    : enable

C:\>
```

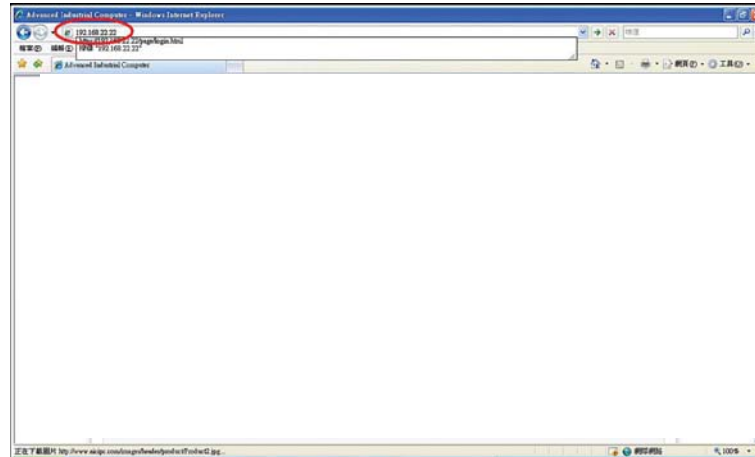
5.3 Connect to BMC



NOTE: THIS FEATURE WORKS WITH JAVA 6 RUNTIME INSTALLED CONSOLE ENVIRONMENT.

Below IP address is an example using default IP setting. User is allowed to change the IP address for realistic use.

1. Open the browser then type default BMC IP address: **192.168.22.22**

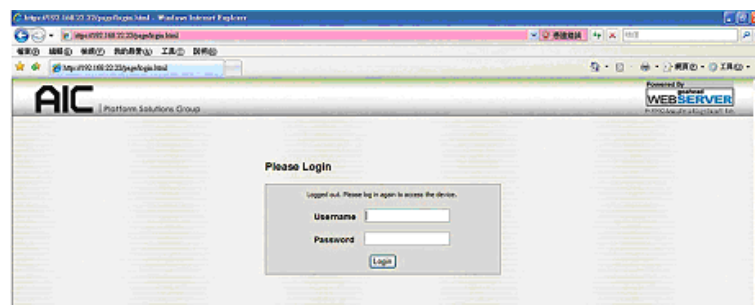


2. Use the default user name and password for first-time login to ASTER.

Field: Default

UserName: root

Password: superuser

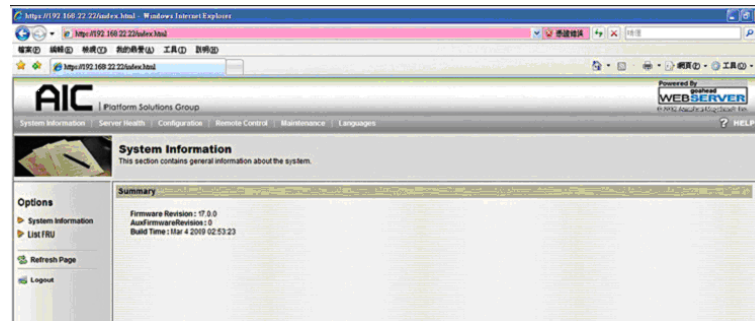


NOTE: THE DEFAULT USER NAME AND PASSWORD ARE IN LOWER-CASE CHARACTERS.

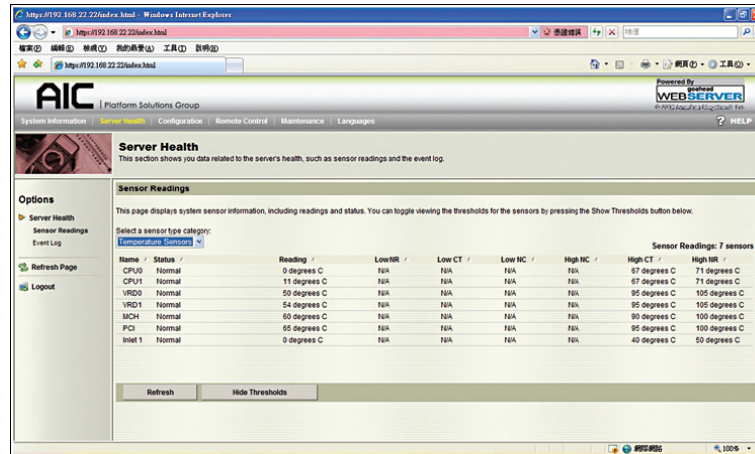


NOTE: USERS WHO LOGIN WITH THE ROOT USER NAME AND PASSWORD WILL HAVE FULL ADMINISTRATIVE POWER. THE ROOT PASSWORD CAN BE CHANGED AFTER LOGIN.

3. Information of ASTER firmware.

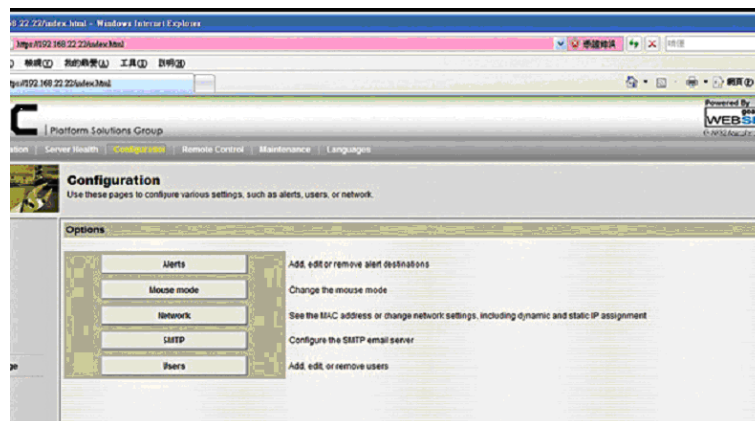


4. Server Health - Sensor Readings:

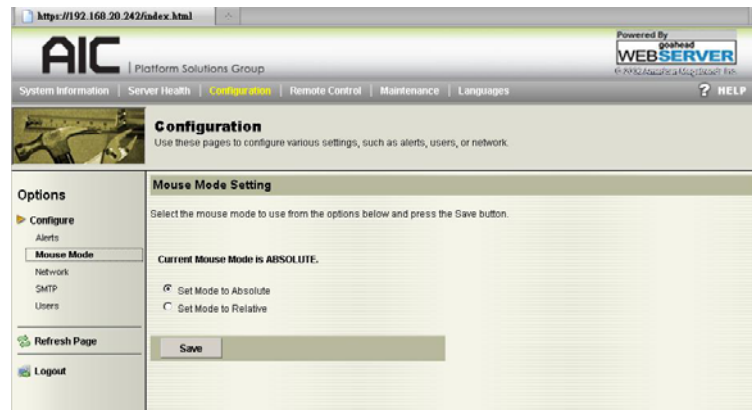


5. Configuration

Please refer to AIC BMC User Guide for more information on AIC BMC.

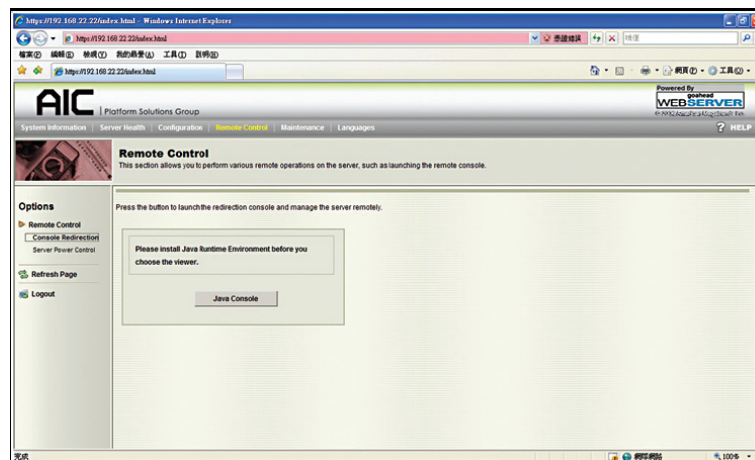


Mouse Mode setting:

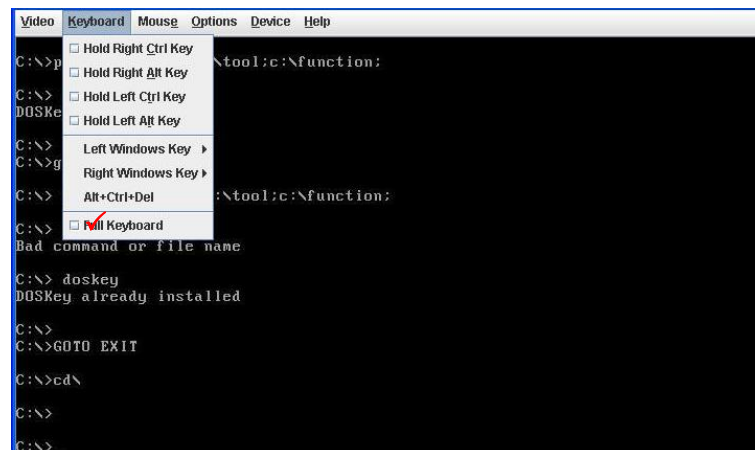


- For Windows OS environment, set mode to absolute.
- For Linux OS environment, set mode to relative.

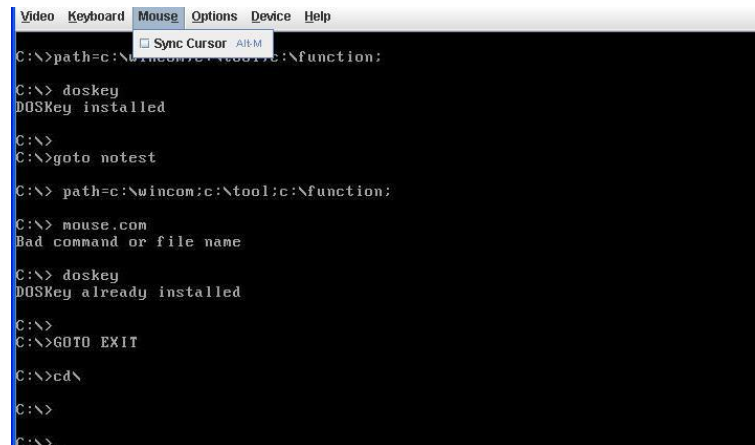
6. Remote Control:



Environmental setting:



Press "ALT+M" for local and remote OS mouse control switching.



```
Video Keyboard Mouse Options Device Help
C:\>path=c:\wincom;c:\tool;c:\function;
C:\> doskey
DOSKey installed
C:\>
C:\>goto notest
C:\> path=c:\wincom;c:\tool;c:\function;
C:\> mouse.com
Bad command or file name
C:\> doskey
DOSKey already installed
C:\>
C:\>GOTO EXIT
C:\>cd\
C:\>
C:\>
```



NOTE: CLOSE ALL OTHER APPLICATIONS. THIS STEP IS REQUIRED FOR "ALT+M" TO BE EXECUTED PROPERLY.

5.4 Updating BMC Firmware

1. Boot to the DOS (MS-DOS or Free DOS is workable)
2. Enter BMC firmware directory [XXXXNYYY]; XXXX: M/B name ; YYY: firmware version
3. Execute **a.bat** batch file to update the BMC firmware

Example:

```
A:>cd AQUAN120
A:\ AQUAN120>a.bat
```

This is just an example. The latest BMC firmware version is available from the FAE or AIC website.

4. After update BMC firmware, please power off and then power on system.



NOTES:

1. DO NOT USE EMM386 IN DOS ENVIRONMENT WHEN UPDATING FIRMWARE OR YOU WILL GET A FAIL.
2. IN SOME CRITICAL CONDITION, AFTER UPDATING BMC FIRMWARE OR CONFIG FILE, YOU MIGHT NEED TO UNPLUG AC POWER CORD 5 SECONDS AND THEN PLUG AC POWER CORD TO RESET BMC, THEN UPDATED NEW FUNCTION CAN WORK PROPERLY.

5.5 Updating BMC Configuration



CAUTION: SYSTEM MIGHT ENCOUNTER SERIOUS ISSUES WHEN THE WRONG BMC FIRMWARE AND WRONG BMC CONFIGURATION IS UPDATED. EACH BMC CONFIGURATION HAS A CORRESPONDING BMC FIRMWARE THAT HAS BEEN TESTED AND APPROVED FOR EACH SPECIFIC PRODUCT. PLEASE MAKE SURE FIRMWARE AND CONFIGURATION VERSIONS ARE CORRECT BEFORE UPDATING. CONSULT THE AIC WEB SITE ([HTTP://WWW.AICIPC.COM](http://www.aicipc.com)) FOR THE CORRECT COMBINATION OF FIRMWARE AND CONFIGURATION VERSIONS FOR YOUR SYSTEM. PLEASE ALSO ENSURE THAT THE BMC FIRMWARE IS UPDATED BEFORE THE BMC CONFIGURATION.

1. Boot to DOS (MS-DOS or Free DOS is workable)
2. Enter BMC config file directory [XXXXXXZYY];
XXXXXX: barbone name; **YY**: config version
3. Execute the **config.bat** batch file to update config file

Example:

```
A :> cd G107NC01
```

```
A:\ G107NC01>config.bat
```

This is just an example; the latest BMC configuration version is available from the FAE or AIC website.

4. After update config file, please power off and then power on system.



NOTE: 1.DO NOT USE EMM386 IN DOS ENVIRONMENT WHEN UPDATING FIRMWARE OR YOU WILL GET A FAIL.

2.IN SOME CRITICAL CONDITION, AFTER UPDATING BMC FIRMWARE OR CONFIG FILE, YOU MIGHT NEED TO UNPLUG AC POWER CORD 5 SECONDS AND THEN PLUG AC POWER CORD TO RESET BMC, THEN UPDATED NEW FUNCTION CAN WORK PROPERLY.

Chapter 6.

Technical Support



[Http://www.aicipc.com](http://www.aicipc.com)

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Fax: +886.3.313.8377

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Fax: +81.43.202.8381

Email Technical Support: support@aicipc.com

- **CHINA**

Tel: +021.54961421, +021.54961422

Fax: Extension: 608

Email Technical Support: support@aicipc.com

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- **AMERICA — East coast**

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Fax: +1.973.884.4794

Email Technical Support: support@aicipc.com

- **EUROPE**

Tel: +31.30.6386789

Fax: +31.30.6360638

Email Technical Support: support@aicipc.com

Note

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.